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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,746	12/06/2001	Kevin P. Baker	GNE.2830PIC5	8217

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EXAMINER

HAMUD, FOZIA M

ART UNIT	PAPER NUMBER
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1647

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,746

Applicant(s)

BAKER ET AL.

Examiner

Fozia M Hamud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/04/02.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's preliminary amendment canceling claims 1-27 and adding new claims 28-40, filed on 06 December 2001 is acknowledged.

Thus claims 28-40 are pending and under consideration.

2. **Priority:**

2a. Based on the information given by Applicants and an inspection of the patent applications, the Examiner has concluded that the subject matter defined in this application is supported by the disclosure in application serial no. 09/946,374 filed on 04 September 2001, because, EXAMPLE 150 (Assay #110), which provides a specific and substantial asserted utility or a well established utility for the claimed antibodies, is disclosed on page 512 of Application no. 09/946,374. However, it does not appear that any of the other prior applications disclose this assay. Accordingly, the subject matter defined in claims 28-40, is afforded an effective filing date of 04 September 2001, which is the filing date of the U.S application No. 09/946,374.

Should the applicant disagree with the examiner's factual determination above, it is incumbent upon the applicant to provide the serial number and specific page number(s) of any parent application filed prior to 09/04/01, which specifically supports the particular claim limitation for each and every claim limitation in all the pending claims which applicant considers to have been in possession of and fully enabled for prior to 09/04/01.

Claim rejections-35 USC § 112, first paragraph:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3a. Claims 28-32 and 39-40 are rejected under 35 U.S.C. 112, first paragraph, while being enabling for an isolated polypeptide comprising the polypeptide sequence set forth in SEQ ID NO:116, does not reasonably provide enablement for an isolated polypeptide having at least 80%, 85%, 90% or 95% identity to the polypeptide of SEQ ID NO:116. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope.

The instant claims 28-32 are drawn to an isolated polypeptide that shares "80%, 85%, 90%, 95% or 99%" identity to the polypeptide of SEQ ID NO:116, however, the specification fails to adequately enable said polypeptides. The specification does not provide any particular conserved structure, or other distinguishing features which would enable a polypeptide having at least 80%, 85%, 90%, 95% or 99% to the polypeptide of SEQ ID NO:116, that would retain the activity of the polypeptide of SEQ ID NO:116. Thus, the claims are drawn to a genus of polypeptides that is defined only by sequence identity. Due to the large quantity of experimentation necessary to determine all the polypeptides comprising an amino acid sequence that is at least 80%, 85%, 90%, 95% or 99% identical to the polypeptide of SEQ ID NO:116, and to screen an activity/property for them, the lack of direction/guidance presented in the specification regarding which variants of the polypeptide of SEQ ID NO:116 would retain the desired activity, the complex nature of the invention, the absence of working examples directed

to variants of the polypeptide of SEQ ID NO:116, the state of the prior art establishing that biological activity cannot be predicted based on structural similarity, the unpredictability of the effects of mutation on the structure and function of the claimed polypeptide, and the breadth of the claims which fail to recite particular biological activities, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

3b. Claims 28-33, 36, 39-40 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The instant claims 28-32 are drawn to an isolated polypeptide that shares "80%, 85%, 90%, 95% or 99%" identity to the polypeptide of SEQ ID NO:116, and claims 33, 36 and 37 are drawn to an isolated polypeptide comprising the extracellular domain of the polypeptide of SEQ ID NO:116. however, the instant specification only describes the structure of the polypeptide of SEQ ID NO:116, and therefore, conception is not achieved until reduction to practice has occurred. Adequate written description requires more than a mere statement that it is part of the invention.

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics,

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structure/function correlation, methods of making the claimed product, or any combination thereof. In this case, the only factor present in the claim is a partial structure in the form of a recitation of percent identity.

There is not even identification of any particular portion of the structure that must be conserved. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus. *Vas-cath Inc. v. Mahurkar*, 19 USPQ2d 11111, clearly states "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." (See *Vas-cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016. Therefore, only the isolated polypeptide set forth in SEQ ID NO: 116, but not the full breadth of the claims meet the written description provision of 35 U.S.C. §112, first paragraph.

Claim Rejections - 35 U.S.C. §102(b):

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4a. Claims 28-40 are rejected under U.S.C. § 102 (a) as being anticipated by Baker et al (WO200012708; published 09 March 2000).

Baker et al disclose an isolated polypeptide that shares 100% homology to the polypeptide of SEQ ID NO:116 of the instant application. (See attached copies of the comparison of SEQ ID NO:116 of the instant invention and the sequence of the reference (SEQUENCE COMPARISON 'A'). Baker et al also disclose an isolated polypeptide comprising the extracellular domain of the polypeptide of SEQ ID NO:116 and a chimeric polypeptide comprising the polypeptide of SEQ ID NO:116 and a heterologous polypeptide, (see claims).

Instant claims 28-40 are drawn to an isolated polypeptide having SEQ ID NO:116. Therefore, the Baker et al reference meets all the limitations recited in claims 28-40, anticipating said claims, in the absence of any evidence to the contrary.

Claim Rejections - 35 U.S.C. §102(a):

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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4b. Claims 28-34, 39-40 are rejected under U.S.C. § 102 (a) as being anticipated by Yang et al (WO200151638; published 19 July 2001).

Yang et al disclose an isolated polypeptide that shares 100% homology to the polypeptide of SEQ ID NO:116 of the instant application. (See attached copies of the comparison of SEQ ID NO:116 of the instant invention and the sequence of the reference (SEQUENCE COMPARISON 'B').

Instant claims 28-34, 39-40 are drawn to an isolated polypeptide comprising the amino acid sequence set forth in SEQ ID NO:116. The Yang et al reference meets all the limitations recited in claims 28-34, 39-40, thus, anticipating said claims in the absence of any evidence to the contrary.

Conclusion:

5. No claim is allowed.

Advisory Information:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fozia M Hamud whose telephone number is (571) 272-0884. The examiner can normally be reached on Monday, Thursday-Friday, 6:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary L Kunz can be reached on (571) 272-0887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fozia Hamud
Patent Examiner
Art Unit 1647
01 June 2004



JANET ANDRES
PATENT EXAMINER